

**REMARKS/ARGUMENTS**

In response to the Patent Office communication mailed 05/15/2006, applicants submit this response in substitution for the response filed 3/10/2006 identified in the subject Patent Office communication as being a bona fide but less than fully responsive reply to the Office Action mailed 02/17/2006 (hereafter "Office Action"). The present response presents a preliminary amendment to the claims specifically withdrawing claims 7-9 and adding new claims 16-18. All other claims remain as originally filed. Applicants also present amendments to paragraphs 33 and 35 of the specification to rectify spelling oversights.

The Office Action alleges that the application contains claims directed to three inventions (I, II and III) corresponding, respectively, to claim groupings 1-6, 7-9 and 10-15. The Office Action alleges that the inventions I, II and III are distinct because the process claims (inventions I/II) can be practiced by another and materially different apparatus [*other than the apparatus invention III*] such as an anti-skid braking system. The Office Action further alleges that inventions I and II are distinct because they are related as combinations and subcombinations. Finally, the Office Action alleges with respect to invention III that none of the claims are generic and that election of invention III requires the further election of species related to one of an electro-hydraulically controlled transmission and an electrically variable transmission.

New claims 16-18 correspond to invention I. Therefore, invention I now includes claims 1-6 and 16-18. Applicants have withdrawn claims 7-9 from further consideration, retaining all rights to prosecute same in a divisional application. By virtue of the withdrawal of claims 7-9, applicants submit that the basis for the combination/subcombination election has been removed and the only outstanding elections correspond to A.) the allegation that the inventions I and III are distinct because the process claims (invention I) can be practiced by another and materially different apparatus [*other than the apparatus invention III*] such as an anti-skid braking system and B.) the allegation that none of invention III claims are generic.

Applicants respectfully traverse the outstanding election requirement. Consideration of the remarks that follow is respectfully requested.

First, applicants point out that the specification describes the invention as follows:

[0001] The present invention is related to vehicular powertrain control.

GMC3159

9 of 13

More particularly, the invention is concerned with resolving various operator torque requests into a final resultant output torque for a control of a vehicular transmission.

\*\*\*

[0005] The present invention provides a method and apparatus for a vehicle for effectively resolving various torque requests into an output torque from the transmission of the powertrain. . . .

It is clear that the method of the present invention relates to resolving operator requests into the output torque of the transmission. The Office Action states that the process claims (inventions I/II) can be practiced by another and materially different apparatus [*other than the apparatus invention III*] such as an anti-skid braking system. However, an anti-skid braking system is believed to limit individual wheel lock-up during brake application and is not believed to be related to resolving operator torque requests - be they from throttle or brake pedal - into the output torque of the transmission. In essence, it is believed that anti-skid braking operates merely with regard to wheel speed and does not effect output torque control of the transmission. Applicants therefore submit that the election requirement based on the assertion that invention I can be practiced by an anti-skid braking system is improper. Applicants respectfully request that the election requirement be withdrawn.

Second, applicants point out that the background in the specification describes the following:

[0004] Conventional powertrains in general are responsive to operator torque requests as may be provided by way of conventional throttle linkages to an internal combustion engine. Modern powertrains rely on torque based controls to determine a torque request from an accelerator pedal position where the accelerator pedal is not mechanically operatively coupled to an engine (e.g. throttle by wire). Hybrid powertrains generally rely upon a mechanically operatively decoupled accelerator pedal in determining the propulsion torque request from the vehicle operator, which propulsion torque may be delivered in various contributory splits from the internal combustion engine and the electric machine(s). Similarly, hybrid powertrains may provide all or a portion of braking torque by controlling regenerative operation of the transmission electric machine(s) or by controlling the electric machines in a fashion to transfer vehicle energy to the engine and dissipate that energy via engine braking in response to operator braking requests. Hybrid powertrains, therefore, are generally responsive to both accelerator pedal and service brake pedal requests to provide output torque in accordance therewith.

GMC3159

10 of 13

And, the specification describes the invention as follows:

[0006] A vehicle powertrain includes a prime mover, preferably a throttle-by-wire diesel or gasoline internal combustion engine and a transmission. The transmission may be a conventional electro-hydraulically controlled transmission coupled to the engine and selectively changing input/output ratios by friction torque transmitting elements such as clutches and brakes. The transmission may also be an electrically variable transmission including one or more electric machines for varying effective input/output ratios and providing hybrid functionality including regenerative braking. An electronic controller has among the various control programs stored for execution therein a set of instructions for establishing the output torque of the transmission. These instructions rely upon a variety of inputs including attained range and torque requests from the operator such as throttle requests and brake requests and establish an output torque in accordance with various torque contributions to the powertrain. Instructions are included for attenuating a first torque contribution which may be a throttle torque contribution determined in accordance with an operator throttle request, preferably as a function of an operator brake request. Preferably, the first one of the plurality of torque contributions includes a throttle torque contribution, a second one of the plurality of torque contributions includes a brake torque contribution, and the instructions apply a variable gain to the first one of the plurality of torque contributions that generally a) trends in one direction as an operator throttle request trends larger and b) trends in an opposite direction as an operator brake request trends larger.

Further, invention III independent claim 10 recites:

10. (original) A vehicular powertrain comprising:
  - a prime mover coupled to an input of a transmission, said transmission including an output; and,
  - a computer based controller including a storage medium having a computer program encoded therein for establishing torque at the transmission output in accordance with a plurality of torque contributions, said computer program including
    - code for attenuating a first one of the plurality of torque contributions,
    - code for combining the attenuated first one of the plurality of torque contributions with the others of the plurality of torque contributions into a desired output torque, and
    - code for establishing the torque at the transmission output in accordance with the desired output torque.

With respect therefore to the election requirement regarding invention III, applicants

GMC3159

11 of 13

respectfully submit that claim 10 is in fact generic with respect to the alleged species (i.e. species A electro-hydraulically controlled transmission and species B electrically variable transmission). One skilled in the art will recognize that a powertrain may be a hybrid powertrain wherein output torque contributions may come from various electrical (e.g. motor/generator) and mechanical (e.g. engine) sources. The hybrid powertrain may for example comprise an electrically variable transmission or multispeed (e.g. electro-hydraulic) transmission and electric machine complement. In each such exemplary arrangement, the powertrain may be generally responsive to both accelerator pedal and service brake pedal requests to provide an output torque in accordance with engine and electric machine torques whether for braking or propulsion. Applicants therefore submit that the election requirement based on the assertion that no claims of invention III are generic is improper. Applicants respectfully request that the election requirement for election of either species A or B be withdrawn.

Therefore, in view of the withdrawal of claims 7-9 corresponding to invention II, the restriction requirement with respect thereto is moot and the only outstanding election requirement is with respect to inventions I (claims 1-6 and claims 16-18) and III (claims 10-15) and in the event of election of invention III then the further election requirement of species A or B since, as set forth herein above, it is applicants' understanding that only in the event of electing invention III is it necessary to further elect species of A or B

In view of the above claim withdrawals and remarks, applicants submit that they have overcome the restriction requirements and respectfully request reconsideration of the necessity to elect between inventions I and III and as between species A and B within invention III. Therefore, prosecution of claims 1-6 and 10-18 is believed to be proper and applicants respectfully request that prosecution be allowed to proceed with respect thereto.

In the event that the above traversal corresponding to election between invention I and III is deemed persuasive, but the traversal corresponding to election between species of invention III is not deemed persuasive, applicants hereby provisionally elect to proceed with invention I and III with further election of the invention III species B identified as relating to an electrically variable transmission, specifically claims 1-6, 10-13 and 15-18 readable

GMC3159

12 of 13

thereon. In the event that the traversal corresponding to election between invention I and III is not deemed persuasive, applicants hereby provisionally elect to proceed with invention I, specifically claims 1-6 and 16-18 readable thereon.

Applicants retain the right to present any withdrawn and non-provisionally elected claims in a divisional application.

If the Examiner has any questions regarding the contents of the present response he may contact Applicants' attorney at the phone number appearing below. And, considering the nature of the election requirements and potential for misunderstanding, should the present paper be deemed not fully responsive the Examiner is respectfully urged to contact the undersigned so that any lingering misunderstanding may be cured and the present case be placed in condition for substantive examination.

Any fees associated with this response may be charged to General Motors Deposit Account No. 07-0960.

Respectfully submitted,



Vincent A. Cichosz  
Registration No. 35,844  
CICHOSZ AND CICHOSZ PLLC  
532 N. Main St.  
Milford, MI 48381  
(248) 676-2798  
Attorney for Applicant